

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

vs.

Case No. 17-cr-20183
Hon. Mark A. Goldsmith

HAROLD LASHAWN NERO (D-5),

Defendant.

DEFENDANT NERO'S MOTION TO SUPPRESS STATEMENTS

Defendant Harold Nero moves this Honorable Court to suppress his statements because they were not made voluntarily, knowingly, or intelligently, in violation of *Miranda v. Arizona*, 384 U.S. 436, 444, 86 S.Ct. 1602, 16 L.Ed.2d 694 (1966), and for an evidentiary hearing, for the reasons in the following brief.

Respectfully submitted,

Date: September 18, 2019

By: /s/Mark H. Magidson
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Statement Regarding Concurrence

I certify and affirm that pursuant to E.D. Mich. LR 7.1(a)(2)(A), defense counsel sought concurrence in this motion and discovery request but did not obtain concurrence in the relief sought. E.d. Mich. LR 37.1, LR 372.

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BRIEF IN SUPPORT OF
DEFENDANT NERO'S MOTION TO SUPPRESS STATEMENTS

FACTS

Defendant Nero is charged in the Superseding Indictment (Doc. 98) with the following offenses: sex trafficking conspiracy, contrary to 18 U.S.C. § 1594(c); sex trafficking by force, fraud and coercion, aiding and abetting, contrary to 18 U.S.C. § 1591(a) & (b), and 18 U.S.C. § 2; conspiracy to distribute a controlled substance, contrary to 21 U.S.C. §§ 846, 841(a)(1), 841(b)(1)(A), 841(b)(1)(C); and, maintaining drug-involved premises, aiding and abetting, contrary to 21 U.S.C. § 856(a)(1), and 18 USC § 2.

The government obtained a search warrant on January 9, 2017 to search the Victory Inn (“Inn”) hotel. The government raided the Inn on January 12, 2017, and that same day, they arrested Nero at a residence on Holmes street, in Detroit.

The government interviewed Nero, who made statements that were video recorded. Nero was intoxicated during the interview, having smoked crack cocaine just prior to his arrest and the entire night before the arrest. Nero appeared “high”, and made and made strange facial expressions. Prior to being recorded, he was advised that if he cooperated by giving a statement, the U.S. Attorney would look favorably toward him regarding whether to charge him. Because of the effects of the drugs, he believed that if he talked to the agents, he would not be charged. Nero informed the agents that he has high and under the influence of crack cocaine.

According to Nero, the government agents told him they were going to administer a drug test and required him to urinate into a container designed for obtaining urine samples. He complied with that request and did in fact urinate into the container. (See Exhibit A, Verified Statement of Harold Nero, attached hereto).

Nero’s statements were not made voluntarily, knowingly, or intelligently.

ARGUMENT

The fact of police custody triggers a number of rights, including the right to counsel. *Miranda v. Arizona*, 384 U.S. 436, 444, 86 S.Ct. 1602, 16 L.Ed.2d 694 (1966).

In order to validly waive *Miranda* rights, the waiver must be voluntary, knowing, and intelligent. The Supreme Court has articulated a test to determine the validity of a waiver of *Miranda* rights:

First, the relinquishment of the right must have been voluntary in the sense that it was the product of a free and deliberate choice rather than intimidation, coercion, or deception. Second, the waiver must have been made with a full awareness of both the nature of the right being abandoned and the consequences of the decision to abandon it. Only if the "totality of the circumstances surrounding the interrogation" reveals both an uncoerced choice and the requisite level of comprehension may a court properly conclude that the *Miranda* rights have been waived.
[*Moran v. Burbine*, 475 U.S. 412, 421, 106 S. Ct. 1135, 89 L. Ed. 2d 410 (1986).]

It is the government's burden to prove the waiver was voluntary, knowing, and intelligent by a preponderance of the evidence. *Colorado v. Connelly*, 479 U.S. 157, 168, 107 S. Ct. 515, 93 L. Ed. 2d 473 (1986).

In determining whether a defendant voluntarily waived his *Miranda* rights, a court considers factors such as: (i) police coercion; (ii) the length of the interrogation; (iii) the location of the interrogation; (iv) the continuity of the interrogation; (v) the suspect's maturity; (vi) the suspect's education; (vii) the suspect's physical condition and mental health; and (viii) whether the suspect was advised of his *Miranda* rights. *Withrow v. Williams*, 507 U.S. 680, 693-94, 113 S. Ct. 1745, 123 L. Ed. 2d 407 (1993); see also *Colorado v. Spring*, 479 U.S. 564, 574, 107 S. Ct. 851, 93 L. Ed. 2d 954 (1987); *United States v. Wiley*, 132 F. App'x 635, 638 (6th Cir. 2005).

"[W]hen the interrogating officers reasonably should have known that a suspect is under the influence of drugs or alcohol, a lesser quantum of coercion may be sufficient to call into question the voluntariness of the confession." *United States v Haddon*, 927 F.2d 942, 946 (7th Cir. 1991); *United States v Sablotny*, 21 F.3d 747, 751-52 (7th Cir. 1994).

Sleeplessness, alcohol use and drug use are relevant to the knowing and voluntary analysis, but "[i]ntoxication and fatigue do not automatically render a confession involuntary" without some level of police coercion. *United States v. Casal*, 915 F.2d 1225, 1229 (8th Cir. 1990). The test is "whether these mental impairments caused the defendant's will to be overborne." *Id.*

A waiver is knowing and intelligent if the totality of the circumstances show that Defendant understood his rights and the consequences of waiving those rights. *Clark v. Mitchell*, 425 F.3d 270, 284 (6th Cir. 2005). Officers may only question a suspect who is intoxicated or impaired as long as the suspect was not so impaired that his will was overborne. *United States v. Gaddy*, 532 F.3d 783, 788 (8th Cir. 2008).

On January 12, 2017, the police entered the Holmes street residence and arrested Nero. He along with other were restrained with "zip ties" and were not free to leave. He was in custody for *Miranda* purposes.

Thereafter, the government interrogated Nero, asking incriminating questions intended to elicit incriminating answers to be used in his later prosecution.

Nero has suffered from drug addiction for over 25 years, having been in and out of rehab over that length of time. Prior to the January 12, 2017 he had relapsed and had been using steadily for over 10 months. His drug of choice is crack cocaine. The life of a crack addicted person consists of “hustling” to raise the funds to purchase rocks of cocaine, then tracking down the dealer and then smoking until it is gone and then starting all over again. Days and nights blend together. He was regularly sleep deprived because cocaine is a stimulant. However, in rock form, the high is immediate but begins to wear off and then more is continually needed to maintain the manic feeling that cocaine produces. His association with the Victory Inn consisted of him trying to procure drugs there and hustling customers of the motel. Just before being arrested and interrogated in custody, Nero had ingested a large amount of crack cocaine making him delusional and irrational, and as a result he did not make a knowing and intelligent waiver of his *Miranda* rights.

Nero was objectively high on cocaine. Moreover he advised the agents that he had been smoking all night, and it was apparent to the federal agents interrogating him that he might be under the influence of something, because they requested that he give a urine sample just following the interrogation.

“Cocaine is an addictive drug that produces numerous psychiatric symptoms, syndromes, and disorders. The symptoms include agitation, paranoia, hallucinations, delusions, violence, as well as suicidal and homicidal thinking.” (Exhibit A - *Cocaine and Psychiatric Symptoms*, W. Alexander Morton, Pharm.D., B.C.P.P., Prim Care Companion J Clin Psychiatry, 1999 Aug; 1(4): 109–113).¹

The government read him his *Miranda* rights, but Nero did not voluntarily waive them. Nero did not understand his *Miranda* rights and the effect of waiving them because of his intoxication and impairment.

The government raided his residence early in the day, handcuffed him, and questioned him in an interrogation room (the kitchen). Even that level of police conduct was enough to overcome Nero’s deeply impaired will. Not only was Nero in the midst of a crack cocaine high, he was also addled from years of drug abuse. And the government knew that this case involved defendants like Nero who were heavy drug users.

According to his statement, he spent the night on Holmes Street with the mother of his child and Kelly Spoor who owned or rented the Holmes house. They started off smoking 5 or 6 rocks that they received from “Mike” and when that ran out, Nero was able to “score” another 10-15 rocks from his supplier, and then fell

¹ available at web address: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC181074/>.

into restive sleep at 4:30 only to be awakened by a call alerting them that the Victory had been raided. This prompted Nero to smoke a “push” that was still in the pipe and later that morning about 8:00 a.m. John Houston, another supplier came by with more rocks which were promptly smoked. Mr. Nero then was seeking additional crack and went outside about 9:00 a.m. to meet yet another provider when the agents executed their raid and brought him back into the house, “zip tying” him. (See Statement of Nero attached)

Mr. Nero described the effects of the cocaine: ...“my mind was racing and my thinking was not clear, the effects of cocaine made me paranoid, believing I had to talk to the police.” (Par.15) He describes the effects of cocaine as being a stimulant and that he was up all night with racing thoughts. (Par. 17). He stated that his thinking was delusional. “thinking that if I just “explained” to {the agents}, they would let me go.” (Par. 18). He believes that if it were not for his delusional thinking brought on by the drugs, he would not have talked to the police. (Par 21). He falsely believed representations of leniency.

This is not a case like *United States v Gaddy*, 532 F3d 783 (8th Cir. 2008), where the government did not know that the defendant was intoxicated and there was no evidence that the defendant was intoxicated. In *Gaddy*, the federal agents testified that the defendant appeared awake and coherent, and he did not say he was tired, intoxicated, or under the influence of drugs. *Id.* at 788. The defendant acknowledged that he understood his *Miranda* rights, and that he wanted to make a

statement. *Id.* The defendant looked "calm, fairly quiet" and was "very compliant," and when asked, said he wanted to talk to the agent. *Id.* at 789.

In this case, the government knew Nero was seriously intoxicated, making bizarre statements disjointed from the subject of the interrogation. At a minimum, the government should have known Nero was intoxicated. The recorded interrogation shows Nero's intoxicated behavior, and the government did not have sufficient reason to rely on his waiver of rights, or to presume he knowingly waived his rights.

Defendant's Right to an Evidentiary Hearing and Reports.

The right to a separate evidentiary hearing when an attack on the admissibility of evidence is made on constitutional grounds was established by the U.S. Supreme Court in *Jackson v Denno*, 378 US 368, 380, 994; 84 SCt 1774; 12 LEd2d 908 (1964): "A defendant objecting to the admission of a confession is entitled to a fair hearing in which both the underlying factual issues and the voluntariness of his confession are actually and reliably determined."

As Nero indicated in his statement, he was asked by the agents to urinate into a container designed for that purpose. He was told they were going to test him for drugs. Defendant sought to obtain these results from the Government, but was ignored and thereafter sought to get the test results, if any, by filing a motion,

however, that motion was not granted. He is requesting that the Government produce the results of the drug test, if done.

In this case, Nero moves to suppress hi statements on constitutional grounds, under the Fifth Amendment, and therefore, he is entitled to an evidentiary hearing. He is also entitled to be provided the results of any drug test taken at or near the time of the interrogation.

WHEREFORE, Defendant Nero (D-5) moves this Honorable Court to suppress his involuntary and unknowing statements and for an evidentiary hearing requiring the presence of the interrogating officers and production of the drug test results, testing protocols, and chain of evidence.

Date: September, 2019

Respectfully submitted,

By: /s/Mark H. Magidson

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CERTIFICATE OF SERVICE

I certify that on September 18, 2019, I electronically filed the above *Motion* with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to the parties of record.

By: /s/Mark H. Magidson
MARK H. MAGIDSON (P25581)
Attorney for Defendant Nero (D-5)

Exhibit

A

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA,
Plaintiff,

-vs-

Case No.
Hon. Mark Goldsmith

HAROLD NERO,
Defendant

_____ /

VERIFIED STATEMENT OF HAROLD NERO

Harold Nero hereby makes the following verified statement in support of his Motion to Suppress Statement:

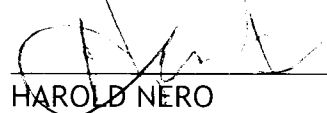
1. I am the Defendant in the above captioned case and the facts contained in this Statement are based upon my personal knowledge and observations and if called to testify I would testify to the same.
2. I was arrested in this matter on January 12, 2017 at approximately Nine or Ten O'clock in the morning.
3. I was initially arrested in a private home located on 7711 Holmes Street, which was owned or rented by Kelly Spoor, who I called "Ma" or "Ma Kelly" because she took care of persons who suffered from addiction including addiction to crack cocaine or heroin and allowed persons without a permanent address to stay at her house for short stays.
4. I had spent the night there with her along with other people including Chestenea Jennings, the mother of my child, but during the night and early morning hours, people would be coming and going.

5. During the night I used crack cocaine, smoking about 5 or 6 rocks of cocaine with Kelly who had gotten the rocks from "Mike."
6. When Mike's dope ran out, I called another contact for my own additional drugs, and that was dropped off at around 2:30 a.m.
7. I was supplied about another 10-15 rocks from my supplier.
8. I proceeded to smoke that until about 4:00 a.m.
9. At about 4:30 a.m., I fell into a partial sleep, exhausted from smoking, but at around 5:00 a.m., Ma Kelly got a call from someone who told her the Victory was being raided.
10. After she got that call, I needed to smoke but we had smoked up everything that night, however, I still had a "push" in the pipe that was left over from smoking all night, and I was able to smoke that.
11. I started making calls to get more rocks.
12. Later John Houston came over about 8:00 or 8:30 with additional rocks and I smoked those additional rocks of cocaine, but still wanted more.
13. Around 9:00 a.m., at the approximate time of the raid on the Holmes Street house, I was outside waiting for my contact to bring me more rocks, when the police rolled up, forced me back into the house, zip tied everyone in the house and about 30 minutes later a person in slacks and shirt and tie delivered a search warrant.
14. Shortly after that the police stated I had to be interrogated and they did so in Ma Kelly's kitchen.

15. I was high and still feeling the effects of the cocaine; my mind was racing and my thinking was not clear, the effects of the cocaine made me paranoid, believing that I had to talk to the police.
16. I told the police I was high and smoking all night.
17. I had been up basically all night and my mind was racing; one of the effects of cocaine is that being a stimulant, it forces you to stay awake with racing thoughts.
18. My thinking was also delusional thinking that if I just "explained" to them what was going on, they would let me go.
19. I have suffered from a crack cocaine addiction for over 25 years and have been in and out of rehab, specifically at Share House on East Grand Blvd. in Detroit.
20. At the time of my arrest on Holmes Street I had been back to smoking crack cocaine for about 10 months and after relapsing I spent the majority of my time either smoking crack or looking to score more rocks.
21. As this Court knows, this is not my first arrest, a fact I am not proud of, but based upon my prior experiences I believe that had I not been so high, which caused me to be delusional in my thinking; I would not have talked to the police.
22. After the interrogation the police told me to urinate in a jar that was designed for urine specimens because they wanted to verify if I was high on cocaine.

I HAVE READ THE FORGOING FACTUAL STATEMENTS AND THE SAME ARE TRUE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

Dated: 9/11/19


HAROLD NERO

Exhibit

B

Cocaine and Psychiatric Symptoms

W. Alexander Morton, Pharm.D., B.C.P.P.

Background: Cocaine is an addictive drug that produces numerous psychiatric symptoms, syndromes, and disorders. The symptoms include agitation, paranoia, hallucinations, delusions, violence, as well as suicidal and homicidal thinking. They can be primary to the drug's effect or secondary to exacerbation of comorbid psychiatric disorders.

Data Sources: A computerized literature search was conducted using MEDLINE to identify reports of psychiatric symptoms secondary to cocaine use. Additional reports were found via bibliographies of various published reports.

Data Synthesis: The use of cocaine in the "crack" form is often associated with more frequent and intense symptoms. Paranoia occurs in 68% to 84% of patients using cocaine. Cocaine-related violent behaviors occur in as many as 55% of patients with cocaine-induced psychiatric symptoms. Homicide has also been associated with cocaine use in as many as 31% of homicide victims. In suicide, cocaine has been found to be present in as high as 18% to 22% of cases. Many patients with cocaine dependence have also been found to have a comorbid psychiatric disorder.

Conclusion: Cocaine can produce a spectrum of psychiatric symptoms with which primary care practitioners need to be familiar. Comorbid psychiatric disorders are frequent in patients with cocaine use disorders and can worsen with cocaine use. Nonaddictive medication may be necessary to treat comorbid conditions such as anxiety and depressive disorders. Primary care practitioners need to be familiar with the treatment programs for patients with cocaine use disorders so appropriate referral can easily take place and follow-up care can be understood and maintained.

(Primary Care Companion J Clin Psychiatry 1999;1:109-113)

Received June 21, 1999; accepted July 8, 1999. From the College of Pharmacy and the Department of Psychiatry and Behavioral Sciences, Medical University of South Carolina, Charleston.

Reprint requests to: W. Alexander Morton, Pharm.D., B.C.P.P., MUSC Institute of Psychiatry, 67 President St., P.O. Box 250861, Charleston, SC 29425 (e-mail: mortona@musc.edu).

The likelihood is high that primary care practitioners will encounter patients with substance use problems, as these disorders are not rare. In the United States, there is currently an 11.3% incidence of substance use disorders and a 26.6% chance that an individual will develop one during his or her lifetime.¹ Cocaine is a frequently used substance that currently causes numerous

problems in our health care programs and society. Chemical dependence to cocaine is a psychiatric, psychological, and biological disorder that affects almost all areas of a person's life. Cocaine has the potential to produce a spectrum of psychiatric symptoms and exacerbate many mental disorders.

OVERVIEW

A computerized literature search was conducted using MEDLINE to identify reports of psychiatric symptoms secondary to cocaine use. Additional reports were located by reviewing the bibliographies of the reports found in the initial search. This article reviews some of the more frequent symptoms, offers an explanation for their presence, and discusses possible treatments of the symptoms as well as the addiction.

"Crack" and Cocaine

Cocaine is one of the most addictive substances used in today's society. Most medical practitioners know "crack" is connected to cocaine, but few clinicians know exactly what crack is. Crack is cocaine (cocaine base), but not in the powder form. The powder form (cocaine hydrochloride) is usually "snorted" intranasally, producing a "high" of less intensity. A high temperature (195°C) is required to vaporize cocaine hydrochloride powder for smoking. The powder has a slower onset of action to produce the euphoric effects compared with crack, which is a solid formed by mixing cocaine powder with water and baking soda. This transformation makes crack a drug that is easier and more economical to market and, consequently, much less expensive.

Crack is in a form that allows it to be vaporized at a much lower temperature (98°C), without burning and destroying excess cocaine. Getting cocaine into a vapor form or smoke is important to cocaine users for 2 reasons. The first is that, when smoked, the drug is delivered through the lungs to the brain almost immediately. It then causes release of brain chemicals in the pleasure centers of the brain, resulting in the desired stimulating, euphoric effects. The second reason is that the crack form does not waste cocaine by burning it up.

Neurochemistry

Cocaine has numerous effects on many important neurotransmitters in the brain; however, the most dramatic effect is on the increase as well as the release of dopamine.

Dopamine is thought to be the primary neurotransmitter involved in the pleasure centers of the brain. Its release is associated with pleasure and a sense of well-being and is often a “reward” for certain behaviors. Excessive dopamine levels have also been hypothesized to be associated with anger, aggressiveness, hallucinations, delusions, and other psychotic symptoms.

Cocaine also initially increases levels of norepinephrine and serotonin, 2 other essential neurotransmitters. Norepinephrine is responsible for alertness, activation, increase in heart rate and blood pressure, and preparing the body for emergencies, such as “fight-or-flight” situations. Serotonin is partially responsible for regulating mood, appetite, and sleep, as well as other essential behaviors. After repeated use of cocaine causing “instant” release of these brain chemicals, an overall depletion of dopamine, norepinephrine, and serotonin gradually occurs. A person’s compulsive use may be an attempt to maintain the neurotransmitters at homeostatic levels.

EFFECTS OF COCAINE USE

Initial Effects

Crack produces effects almost instantaneously, within seconds, whereas intranasal powder cocaine may require 5 to 10 minutes to produce effects. These effects consist of intense euphoria, pleasure, and ecstasy, states in which everything pleasurable is intensified. The following quotes from patient interviews have provided useful descriptions,^{2(pp317-318)} including: “It’s like a hurricane blast of pure white pleasure.” These effects are followed by several minutes of arousal and restlessness. “It’s like you’re speeding. Moving around a lot. Talking a lot. But the rush is gone.” After approximately 5 to 20 minutes of this arousal, the person will start to feel irritable and uncomfortable. “I get restless and agitated and keep doing it. I dunno . . . it’s crazy.” “It’s the most horrible depression I ever got. The only thing to do is do more coke, but it doesn’t help . . .” In an attempt to avoid this discomfort and “recapture” the initial high, people frequently compulsively smoke again.

Cocaine Dependence

When a patient is using cocaine excessively, there is little difficulty in arriving at the diagnosis of cocaine dependence. To satisfy the criteria for the diagnosis of cocaine dependence, only 3 of the following conditions must be present according to the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*³:

- Developing tolerance to the euphoric effects of cocaine and requiring more drug to produce the desired effects.
- Stopping cocaine usually results in withdrawal symptoms (such as fatigue, sleep disturbances,

agitation, or depression), and these symptoms can be relieved by using cocaine again.

- Using cocaine in large amounts whenever it is available. (Seldom do people save some for later.)
- Inability to successfully reduce the amount of cocaine one is using.
- Spending a great deal of time and energy obtaining and using cocaine, which isolates one from friends and family, and/or engaging in unlawful activities such as shoplifting, theft, burglary, or homicide to obtain money to buy cocaine.
- Inability to successfully maintain employment while using cocaine because of ineffectiveness at work, increased absenteeism, inability to hold a job, or inability to find work.
- Continually using cocaine despite knowing one will develop mental symptoms, such as paranoia, hallucinations, and delusions, and/or continually using cocaine despite medical consequences, such as weight loss, anemia, or seizures.

Additional psychiatric disorders can accompany the diagnosis of cocaine dependence and can include cocaine intoxication, cocaine withdrawal, cocaine intoxication delirium, cocaine-induced psychotic disorders with hallucination and/or delusions, cocaine-induced mood disorder, cocaine-induced anxiety disorder, cocaine-induced sexual dysfunction, and cocaine-induced sleep disorder.³

Practitioners may consider the voluntary use of cocaine to be an issue. While voluntary use almost always occurs the first time cocaine is tried, cocaine dependence involving compulsive use frequently follows. This compulsive use is often biologically based, yet many clinicians mistakenly believe the cocaine user can stop using the drug whenever he or she wants.

In helping to understand the compulsive use found in patients with cocaine dependence, the following description and commentary by Dr. Sidney Cohen is quite helpful:

Animals will work more avidly (by pressing a bar repetitively to obtain an intravenous “fix”) for cocaine than any other drug. In an unlimited access situation, monkeys will self-administer cocaine by bar pressing for it until they die in status epilepticus. In one study primates bar pressed 12,800 times in order to get a single dose of cocaine. They will work for cocaine in preference to food even though they are starving. They will continue to bar press even though a receptive female is in their cage. They will prefer an electric shock in order to obtain a large dose of cocaine despite the fact that they could have received a lesser dose without a shock.

Such animal cravings take place in the absence of personality disorders, situation stresses, or some characterological inadequacy. All monkeys respond in this compulsive manner. If humans had unlimited access to cocaine, they probably would behave in a similar way. The highly rewarding proper-

ties of cocaine can make obsessive users of the most mature and well integrated among us.^{4(p3-4)}

Cocaine is not selective in its effects on neurochemistry. Besides stimulating the pleasure centers in the brain, it at the same time activates other systems that control arousal, survival, appetite, mood, and sleep. Although intense pleasure is experienced, a person can also experience nervousness, restlessness, agitation, suspiciousness, paranoia, confused thinking, delirium, hallucinations, delusions, violence, suicide, and homicide.

Paranoia and Psychosis

Paranoia and suspiciousness are often initial symptoms of psychosis. Paranoia occurs in 68% to 84% of patients using cocaine.^{5,6} Cocaine-induced paranoia can be transient, lasting a few hours⁵ or as long as days or weeks.⁷ Prior exposure to cocaine has been clinically correlated with suspiciousness, a precursor to paranoia.⁸ Patients with ongoing, chronic psychiatric disorders and who use cocaine will have more frequent hospitalizations, often related to cocaine-induced paranoia and depression.^{9,10} Intensity and rapidity of onset of paranoia have been related to a state of "sensitization," in which symptoms increase over time with continued use.¹¹

Psychosis, including hallucinations and delusions, has frequently been reported in cocaine users (from 29%⁶ to 53%¹² of users). These psychotic symptoms may be related to an imbalance of dopamine. Psychosis appears to be more common with the use of crack compared with other routes, such as intravenous and intranasal use.¹³

Violence

Violence has been associated with cocaine use. Cocaine-induced psychiatric symptoms undoubtedly contribute to the emergence of violence. In a study of 31 patients with cocaine-induced psychiatric symptoms, 55% had cocaine-related violent behaviors.⁷ In a telephone survey of 452 cocaine users, the following symptoms were reported: anger (42%), violence (32%), and suspiciousness or paranoia (84%).⁶ Violent crimes were committed by 46% of users, usually to get crack.⁶ In this same report, the authors discuss an additional study, which found that 26% of 200 crack users admitted to committing a crime while on crack; 95% of these crimes were violent.⁶ The authors of this report hypothesized that violent behavior associated with cocaine use is predictable based on the effects cocaine has on neurotransmitter dysfunction. Besides an increase in levels of neurotransmitters in the brain's pleasure centers, dramatic change in levels of norepinephrine and serotonin in other parts of the brain might provoke aggression, hyperactivity, impaired judgment, and paranoia.

Inhalation of crack cocaine has been found to produce a greater amount of anger and violence than intranasal use

of cocaine.¹⁴ Similarly, daily use of crack cocaine has been associated with a greater number of illicit activities.¹⁵

Homicide. Homicide also has been associated with cocaine use. In New York City, 31% of 2824 homicide deaths were found to test positive for cocaine or its metabolite, benzoylecgonine.¹⁶ A marked number of residents of New York City (27%) who had fatal injuries also tested positive for cocaine use. Fatal injuries secondary to homicide accounted for 29% of these victims.¹⁷ Concurrent drug use, including alcohol and marijuana, was cited as an additional factor in this report. Other cities have reported similar disturbing findings. One study found that 18% of homicide victims in New Orleans tested positive for cocaine.¹⁸ In Los Angeles, violent death occurred in 61% of individuals who died and tested positive for cocaine at autopsy.¹⁹

Suicide. Suicide can be viewed as a form of self-destructive, violent behavior. In one study of 749 cases of suicide in New York City, cocaine was present in 18% to 22% of cases.²⁰ Suicide may be caused by depression, which occurs frequently in people using cocaine.

Connection between violence and psychiatric symptoms. One investigator has postulated that cocaine may produce impatience, irritability, paranoia, and edginess leading to violent behavior.²¹ In general, all substance use has been associated with the inability to inhibit hostile and aggressive impulses.²² The neurotransmitter norepinephrine, released by cocaine, is also involved in "fight-or-flight" behavior. Individuals who use cocaine are often hyperalert and "armed to the outside world."^{23(p565)} Any rapid or unexpected movement by those around them "may be interpreted as hostile."^{23(p565)} All of these factors may contribute to a cocaine-violence connection.

Cocaine abusers may have problems with thinking logically. The most frequently reported cognitive difficulties involve impaired executive functioning (decision making, judgment, attention/planning/mental flexibility), and research has shown that this cognitive domain relates primarily to the functional integrity of the prefrontal lobe.²⁴ This area of the brain also regulates impulse control. The resultant effects would be poor judgment in an individual experiencing impulsivity in the face of severe cocaine craving.

Delirium

Delirium, a potentially fatal syndrome marked by severe, fluctuating confusion and autonomic nervous system instability (such as severe blood pressure changes, pulse changes, and sweating), can occur with cocaine use. Changes in dopamine, norepinephrine, and serotonin levels have been associated with these effects. Delirium can be accompanied by psychotic symptoms (such as paranoia, hallucinations, delusions, and agitated behavior). One report noted that 7 individuals with fatal cocaine intoxication developed an excited delirium with intense paranoia and bizarre and violent behavior, requiring forcible restraint.²⁵

Cocaine Withdrawal

Dr. Frank Gawin has stated that “the fundamental effect of cocaine is the magnification of the intensity of almost all normal pleasures.”^{26(p1581)} This is an obvious reason why a person repeatedly uses cocaine. However, he has also described the patterns that evolve when cocaine is stopped: the cocaine abstinence syndrome. This syndrome often involves a “crash” and a withdrawal phase. During the withdrawal phase, anxiety, hostility, paranoia, and depression have been observed.²⁷ At this time, levels of the neurotransmitters norepinephrine and serotonin are thought to be significantly lowered due to the chronic depletion caused by cocaine use. The rapid reduction in the intensity of these withdrawal symptoms can constitute a major reason a crack addict continues use.

Cocaine also has potent reinforcing effects, defined as “any effect, positive, negative, or both that maintains the behavior that leads to continued administration of the drug.”^{28(p966)} Thus, the use of cocaine “rewards” certain parts of the brain with a release of the neurotransmitter dopamine. In this situation, the reward is a reduction or elimination of the withdrawal symptoms.

CONSIDERATIONS IN TREATING COCAINE DEPENDENCE

Successful treatment often occurs in an outpatient setting. Initially, hospitalization may be necessary to treat withdrawal symptoms and prevent continued, compulsive use of cocaine. Outpatient treatment can be very successful; however, there are many important issues that need to be addressed and many interventions that can be helpful in treating drug-dependent patients.²⁹

Pharmacotherapy utilizing antidepressants and anticonvulsants, as well as dopaminergic and opioid antagonists/mixed agonists, has been used with varying results. These agents continue to play an uncertain role in the primary treatment of cocaine dependence.²⁸ Pharmacologic treatments may be necessary to target secondary (cocaine-induced) or coexistent psychiatric disorders, both of which can complicate treatment if not addressed.^{30,31}

“Sensitization” to cocaine may add to the occurrence of psychiatric symptoms, as a person will have greater hyperactivity when rechallenged with cocaine. “Kindling,” a phenomenon in which lower doses over time produce the same or larger undesired effect (such as seizures or hallucinations), is also associated with cocaine usage.³² Kindling might also be responsible for worsening of psychiatric symptoms, especially psychosis¹² and suspiciousness.³³

The incidence of hallucinations appears to be increasing secondary to an increase in cocaine dependence, mainly crack, as evidenced by a reported incidence of hallucinations associated with cocaine dependence of 18% in 1978³⁴ compared with 96% in 1991.¹² This increase would also be consistent with a kindling model. Pharmacologic

agents that decrease kindling, such as valproic acid and carbamazepine, may potentially be useful in treatment.³⁵ All psychiatric symptoms need to be treated aggressively to prevent them from getting worse as well as more frequent. If suspiciousness, paranoia, and hallucinations continue after the person stops using cocaine, a dopamine blocker, such as haloperidol, should be considered.

The reinforcing properties of cocaine leave a positive memory of the cocaine experience, which usually overrides any negative memory produced by the drug. Extinguishing these positive memories of pleasure and ecstasy occurs over years through continued abstinence and intensive treatment. Behavioral “cues” that stimulate intense craving for cocaine must be learned and avoided.

Successful treatment usually involves 12-step programs, behavioral and supportive psychotherapy, as well as family therapy, as this illness affects everyone in a family. Neurotransmitter levels must be allowed to normalize. Recovering addicts may require initial and/or long-term treatment with nonaddictive medications to help normalize brain chemistry. All substances with potential for abuse need to be stopped. Learning and practicing alternative, safe activities that produce pleasure and “reinforcement” are essential in treatment and recovery.³⁶

Comorbidity of substance use disorders and psychiatric disorders is highly likely. In the National Institute of Mental Health Epidemiologic Catchment Area (ECA) study, 53% of patients with a nonalcohol drug disorder were also found to have a comorbid psychiatric disorder.³⁷ Pharmacologic treatments are often useful to deal with secondary (cocaine-induced) or coexistent psychiatric disorders, both of which can complicate treatment and recovery if not addressed.^{30,31}

Treatment for a person with cocaine abuse or dependence requires considerable preplanning before initiation. Practitioners need to be prepared to discuss the psychological and physical consequences of continued use. Having a referral network of practitioners or programs that specialize in the treatment of cocaine use disorders is important. Equally important is understanding the components of the treatment program so one can adequately explain the program and prepare the patient. Practitioners and patients should expect the use of nonaddictive, psychopharmacologic treatments for comorbid and secondary psychiatric disorders. Practitioners’ familiarity with current behavioral interventions and support groups can be beneficial in patients’ long-term treatment programs.

CONCLUSION

Cocaine dependence is a medical disorder of the brain secondary to numerous changes in the brain’s complex neurochemistry. However, chemical dependency needs to be treated at all levels of dysfunction, including psychological, occupational, and family. Cocaine dependence is

not a fun, voluntary activity. A person who becomes dependent does not consciously set out to ruin his or her life with this drug. It would be hard to expect a person to stop using cocaine when it produces instantaneous joy, energy, pleasure, and deliverance from pain, depression, and boredom at the same time. Given unlimited availability and use, cocaine addicts literally self-destruct, carrying many people with them.

Cocaine dependence can occur in any individual regardless of education level, occupation, or social class. The instant pleasure that is experienced in most people can lead anyone to a life of obsessive thoughts of this drug and its compulsive use. Mental health, physical health, family life, social activities, and occupation are usually adversely affected.

Advances in health care are progressing rapidly and are lending support for the biological basis of cocaine dependence. The development of a vaccine to block the pleasurable effects of cocaine is being rapidly pursued.³⁸ Through radiographic scans of the brain, dysfunctional areas can be identified and novel treatments that target those specific areas and symptoms may be employed in the future.³⁹ Identification of the gene responsible for the predisposition to addiction will ultimately happen.

Cocaine is a powerfully addictive drug that produces numerous psychiatric symptoms. These can include agitation, paranoia, hallucinations, and violence, as well as suicidal and homicidal thinking, which left untreated will most likely progressively worsen. Comorbid psychiatric disorders are common and need to be identified and treated appropriately. When practitioners are evaluating patients presenting with unusual psychiatric symptoms or seeing patients with psychiatric disorders that are non-responsive to traditional treatment, cocaine use should be considered as a potential cause.

Drug names: carbamazepine (Tegretol and others), haloperidol (Haldol and others), valproic acid (Depakene).

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